CLAIMS

1. A refrigerating system of a reciprocating compressor comprising:

an evaporator for performing a cooling operation as a refrigerant is evaporated;

a reciprocating compressor which includes a driving unit having a stator consisting of an outer stator fixed inside a hermetic container, an inner stator disposed with a certain air gap with an inner circumferential surface of the outer stator, and a winding coil wound at one of the outer stator and the inner stator, to which power is applied from an external source, a mover consisting of magnets disposed at regular intervals between the outer stator and the inner stator and linearly and reciprocally moved when power is applied to the winding coil and a magnet frame, in which the magnets are mounted, for transmitting a linear reciprocal motional force to a compression unit, a compression unit for performing a compressing operation on a refrigerant upon receiving the linear reciprocal motional force of the driving unit, and a lubrication unit for supplying the lubricant, a sort of a mineral oil, to each motional portion of the driving unit and the compression unit and performing a lubricating operation;

a condenser for changing the refrigerant compressed in the reciprocating compressor to a liquid refrigerant; and

a capillary tube for decompressing the refrigerant discharged from the condenser and transmitting it to the evaporator,

wherein the refrigerant is an HFC refrigerant, hydrogenated carbon fluoride

comprising hydrogen, fluorine and carbon and not including chlorine, and the lubricant is an ester-based lubricant, a sort of synthetic fluid, with a high moisture absorption and a saturated water amount of 1500~2000 PPM.

2. The refrigerating system of claim 1, wherein an L-cord type heater is mounted at a lower portion of the evaporator, of which a heating wire is coated with a silicon material and a coating material made of an aluminum material is coated at an outer circumferential surface thereof.

3. The refrigerating system of claim 1 further comprising: a controller for varying a capacity of a compressor depending on an ambient temperature and environment.

4. The refrigerating system of claim 3, wherein the controller determines an output value according to a phase difference between a current and a voltage.

5. The refrigerating system of claim 1, wherein the magnet is an Nd (neodium) magnet.

6. The refrigerating system of claim 1, wherein the refrigerant has a zero ozone depletion potential (ODP) and is incombustible.

7. The refrigerating system of claim 1, wherein the refrigerant is HFC134a which has a purity of above 99.9%, a molecular formula of CF_3CFH_2, and a molecular weight of 102.

8. The refrigerating system of claim 1, wherein the lubricant has a density of 0.93~0.99 g/cm^3 at a temperature of 15°C and a total acid number of below 0.01 mgKOH/g.

9. The refrigerating system of claim 1, wherein the lubricant has a flash point of below 240°C and a kinematic viscosity (cSt) of 10.0~22.5 mm^2/s at a temperature of 40°C.

10. The refrigerating system of claim 1, wherein the lubricant contains an additive such as a stabilizer or antioxidant, etc.